MATHEMATICS

DPP

DAILY PRACTICE PROBLEMS

DPP No. 35

Total Marks : 27

Max. Time : 27 min.

Topic : Logarithm

Type of Questions		M.M., Min.
Single choice Objective (no negative marking) Q.1,2,3	(3 marks, 3 min.)	[9, 9]
Multiple choice objective (no negative marking) Q.4,5	(5 marks, 4 min.)	[10, 8]
Subjective Questions (no negative marking) Q.6,7	(4 marks, 5 min.)	[8, 10]

1. If $\log_7 \log_2 \log_\pi x$ vanishes, then x equals:

(A) π^2 (B) 4 (C) 49 (D) none

2. If $\log_3 x = a$ and $\log_7 x = b$, then which of the following is equal to $\log_{21} x$?

(A) ab (B) $\dfrac{ab}{a^{-1}+b^{-1}}$ (C) $\dfrac{1}{a+b}$ (D) $\dfrac{1}{a^{-1}+b^{-1}}$

3. Let $N = \dfrac{81^{\frac{1}{\log_5 9}} + 3^{\frac{3}{\log_{\sqrt{6}} 3}}}{409} \cdot \left(\left(\sqrt{7}\right)^{\frac{2}{\log_{25} 7}} - 125^{\log_{25} 6} \right)$, then value of $\log_2 N$ is equal to :

(A) 0 (B) 1 (C) –1 (D) none

4. If $\ell n\,(x+z) + \ell n\,(x - 2y + z) = 2\,\ell n\,(x - z)$, then :

(A) $y = \dfrac{2xz}{x+z}$ (B) $y^2 = xz$ (C) $2y = x + z$ (D) $\dfrac{x}{z} = \dfrac{x-y}{y-z}$

5. Which of the following when simplified reduces to unity ?

(A) $\log_{1.5} \log_4 \log_{\sqrt{3}} 81$ (B) $\log_2 \sqrt{6} + \log_2 \sqrt{\dfrac{2}{3}}$

(C) $-\dfrac{1}{6} \log_{\frac{\sqrt{3}}{2}} \left(\dfrac{64}{27}\right)$ (D) $\log_{3.5}(1 + 2 + 3 \div 6)$

6. If $\log_{\sqrt{8}} b = 3\dfrac{1}{3}$, then b is equal to .....

7. Which is greater

(i) $\log_{\frac{1}{3}} \dfrac{1}{80}$ or $\log_{\frac{1}{2}} \left(\dfrac{1}{15+\sqrt{2}}\right)$ (ii) $\log_3 5$ or $\log_{17} 25$ (iii) $\log_{\frac{1}{5}} \dfrac{1}{7}$ or $\log_{\frac{1}{7}} \dfrac{1}{5}$

Answers Key

1. (A) **2.** (D) **3.** (A) **4.** (A)(D)

5. (A)(B)(C)(D) **6.** b = 32

7. (i) $\log_{\frac{1}{2}}\left(\frac{1}{15+\sqrt{2}}\right)$ (ii) $\log_3 5$ (iii) $\log_{\frac{1}{5}}\frac{1}{7}$